MDOT
Michigan Department of Transportation

WEST MICHIGAN
TRANSPORTATION
OPERATIONS CENTER

www.Michigan.gov/WMTOC

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Monthly Performance Measures

March 2019

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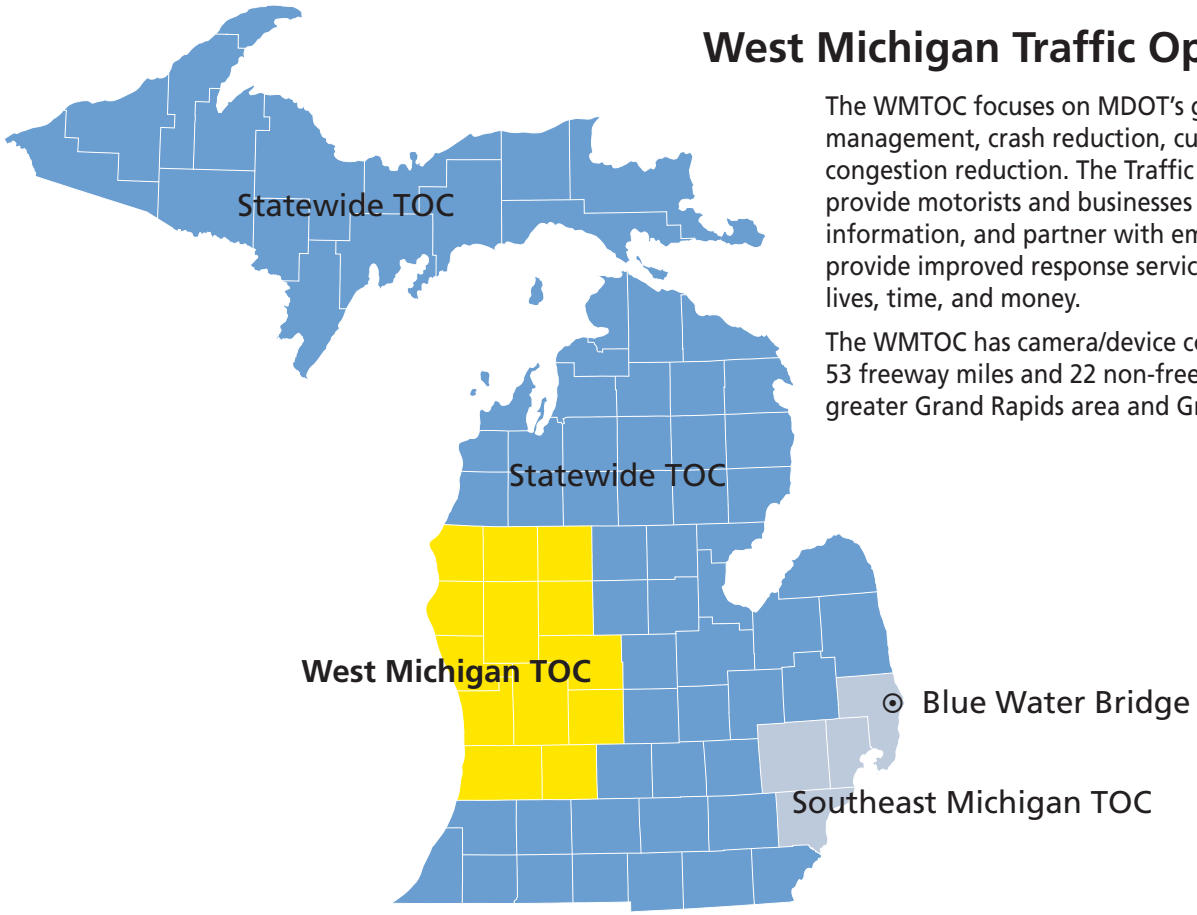
MDOT'S MISSION

Providing the highest quality integrated transportation services for economic benefit and improved quality of life.



West Michigan Traffic Operations Center

The WMTOC focuses on MDOT's goals of incident management, crash reduction, customer information, and congestion reduction. The Traffic Operations Centers (TOC) provide motorists and businesses with real-time traffic information, and partner with emergency response agencies to provide improved response services to traffic crashes – saving lives, time, and money.

The WMTOC has camera/device coverage on approximately 53 freeway miles and 22 non-freeway trunkline miles in the greater Grand Rapids area and Grand Haven.

Spotlight Events

Endangered Missing Advisories

Beginning in March, the WMTOC started messaging for Endangered Missing Advisories (EMA). EMAs are used for cases involving missing persons that do not meet the America's Missing: Broadcast Emergency Response (AMBER) alert criteria. The EMA can be utilized for endangered missing persons of all ages. The EMA of Michigan is supported by the Michigan State Police, Michigan Department of Transportation, Michigan Sheriff's Association, Michigan Association of Chiefs of Police, and the Michigan Association of Broadcasters. Once an EMA is officially issued, the WMTOC will run messages on dynamic message signs (DMS) if there is applicable vehicle information included with the alert. These messages will run in the activated regions to alert the public.

Presidential Visit to Grand Rapids

President Donald Trump visited Grand Rapids for a rally at the Van Andel Arena on Thursday, March 28. The WMTOC coordinated with local, state, and federal law enforcement to secure and manage the traffic in and around the motorcade route before and after the rally. The WMTOC blocked the video feed for multiple closed-circuit television cameras from the media and general public along the motorcade route. This was monitored continually by law enforcement and the Secret Service while the president was traveling to the arena. Law enforcement agencies responsible for the security and motorcade detail, along with the Secret Service, were the only people able to view the video during that time. This is done to ensure the safety of the president. The visit went smoothly and no incidents were reported.

The "Irish on Ionia" in Grand Rapids

The Irish on Ionia annual street festival was held on Saturday, March 16 and took up three city blocks in the heart of Grand Rapids. To support the festival, the WMTOC displayed driver safety messages on DMS to remind travelers of Michigan drunk driving laws. Messages this month included: "You Drink, You Drive, You Lose" and "Buzzed Driving is Drunk Driving." The WMTOC is focused on safety and encouraging all travelers to be responsible when operating vehicles.

Events by Type

Figure 1 shows events by type.

Event: An occurrence within the transportation operations center (TOC) coverage area that requires action or tracking.

Unplanned Events: An incident or other uncontrollable event that directly affects a Michigan Department of Transportation (MDOT) roadway. Unplanned events include Incidents (crashes, disabled vehicles and debris in the roadway) and other events (weather, congestion, and unclassified).

Planned Events: Events that are scheduled. These include construction, maintenance, and special events.

Of the **435** total events this month, **102 (23 percent)** were classified as **Incidents**.

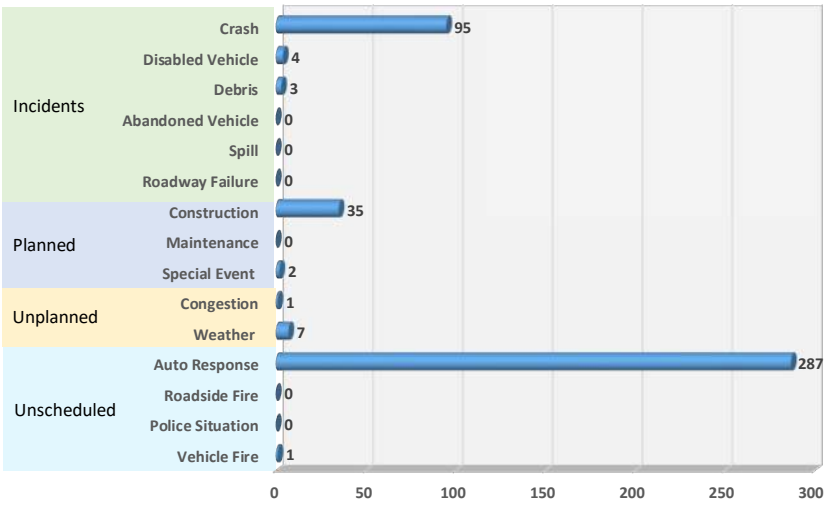


Figure 1

Incidents by Detection Source

Figure 2 provides information on detection sources.

Control room operators (CRO) rely on various sources to detect incidents that occur along the freeways. Noting the source ensures that the incident was detected by a reliable source and provides insight on which sources provide the most information.

Figure 2

Communication

Figure 3 shows communications displayed by type that are managed by CROs.

WMTOC tracks all incoming and outgoing communications to the control room. This includes phone calls, e-mails sent and received, and notifications sent to stakeholders.

CROs managed **1,020** communications this month. Of those communications, **592 (58 percent)** were e-mails, including notifications, and **428 (42 percent)** were phone calls.

The largest number of communications is with MDOT staff, which includes traffic operations, construction, maintenance, county road commission personnel, and other MDOT personnel.

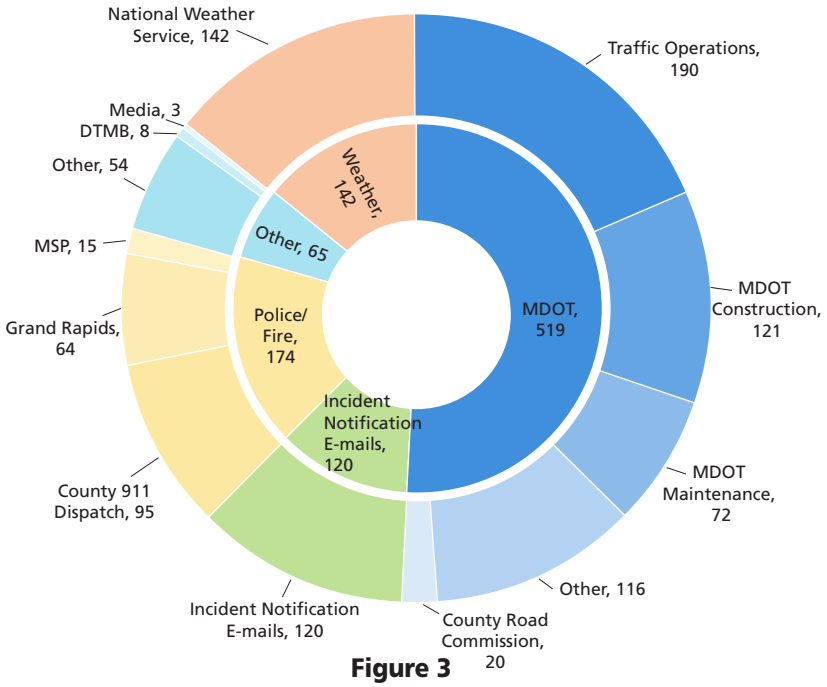
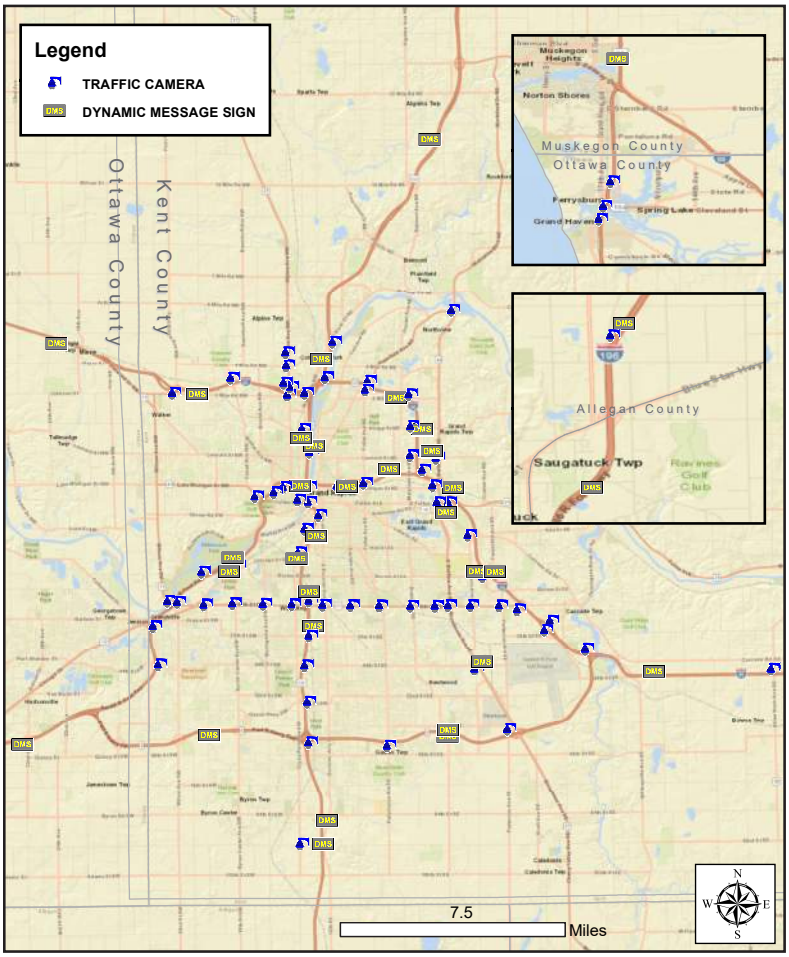


Figure 3

Device Locations



DMS Messages by Type

There were **247** "unique messages" displayed throughout the intelligent transportation systems network this month, as shown in **Figure 4**.

"Unique messages" include incidents, special events, congestion, weather, construction, or AMBER alerts.

Travel time messages are routinely displayed when unique messages are not active. Travel times are updated every three minutes.

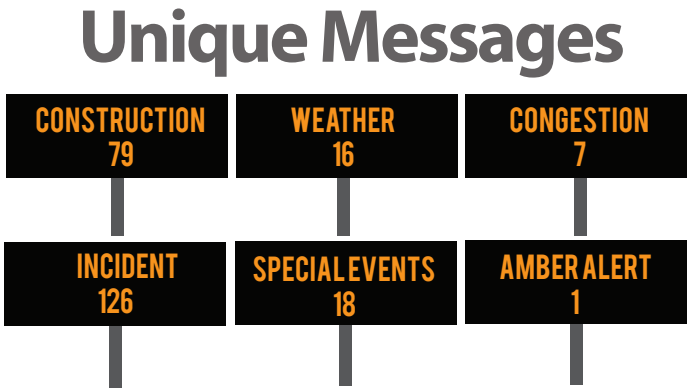


Figure 4

Field Device Availability

The WMTOC tracks the availability of all system devices so that timely maintenance can occur. Reliability of the devices ensures that the operators have tools available to accurately provide traffic conditions to the motoring public. **Table 1** shows field device availability for this month.

Device Type	Number of Devices	Percent Available
Cameras	71	95%
DMS	33	96%
Microwave vehicle detection system	132	47%

Table 1

Work Zone Activities

The WMTOC provides support for the transportation service centers (TSC) in the Grand Region during the construction season. Staff review entries for the region to ensure the information posted on MiDrive is accurate and concise, and continually monitor work zone activities when possible with the ITS devices available. Operators also provide reports for MDOT projects to assist with coordination efforts throughout the region. **Figure 5** shows the total number of events entered for each TSC and the number of events for which the WMTOC provided direct support.

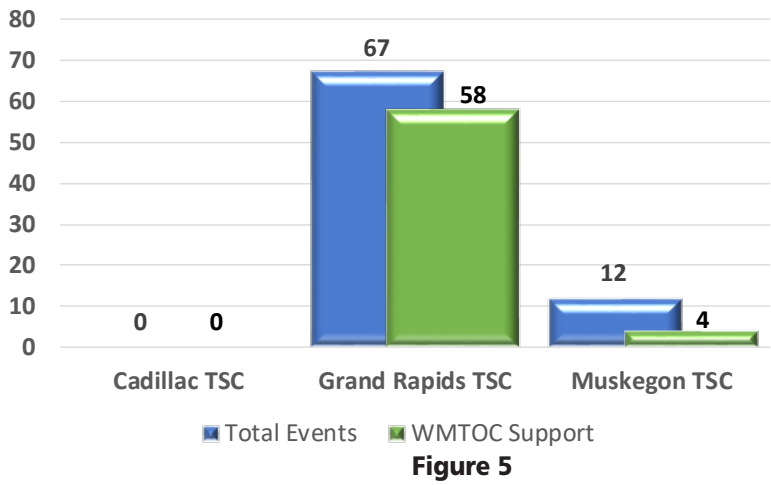


Figure 5

Incidents on Key Routes

Table 2 indicates that **US-131** had the highest total number of incidents and the highest per mile rate in March. **I-96** had the longest incident duration for the month. The table shows incidents for high-volume roadways in the Grand Region.

		March 2019			March 2018			Previous 12-month Avg.		
Route	Miles	Total Incidents	Incidents Per Mile	Average Duration	Total Incidents	Incidents Per Mile	Average Duration	Total Incidents	Incidents Per Mile	Average Duration
I-96, US-31 to M-50	52	12	0.2	1:01	34	0.7	0:57	19.2	0.4	1:02
I-196, Blue Star Hwy to I-96	40	26	0.7	0:43	36	0.9	1:06	27.9	0.7	0:44
US-131, 84th St to Rockford Rest Area	24.5	41	1.7	0:39	67	2.7	1:02	57.6	2.4	0:45
US-31, I-96 to M-120	8	5	0.6	0:50	7	0.9	1:17	5.8	0.7	1:42
M-6, I-196 to I-96	19	3	0.2	0:40	3	0.2	0:50	2.9	0.2	1:01
M-11, I-196 to I-96	11.5	3	0.3	0:17	1	0.1	0:24	1.1	0.1	0:43
M-37/M-44, M-6 to West River Dr	15.5	3	0.2	0:32	4	0.3	0:50	2.9	0.2	0:49

Table 2

Table Key Increase | No Change | Decrease Data is compared to the same month of the previous year.

Total Unplanned Incidents

There were **102** total unplanned incidents this month; **85 percent** of these were high-impact incidents. A high-impact incident is one that results in a total freeway closure, a ramp closure, or a lane closure.

Incident information is shown in **Figure 6**.

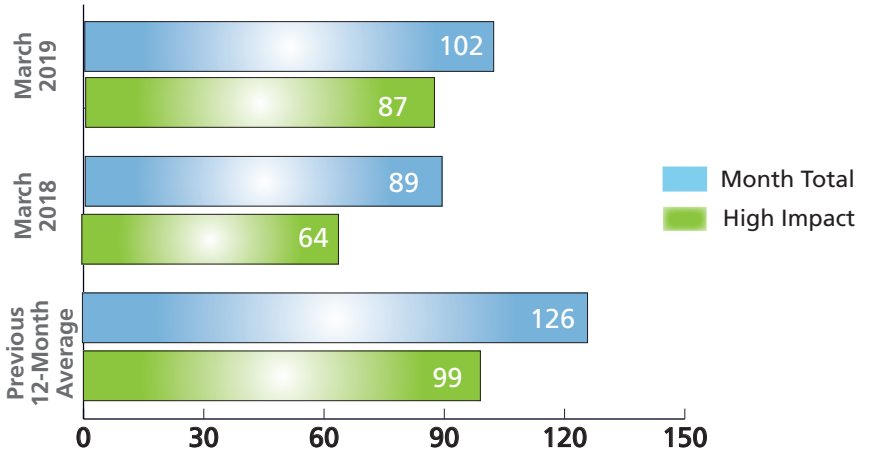


Figure 6

High-Impact Incidents

Seventy-seven percent of high-impact incidents this month occurred along **US-131**. For most high-impact incidents, CROs provide e-mail notifications to stakeholders in the affected area. The notification includes the location of the incident, the degree of closure, the reason for the closure, and any other pertinent information related to traffic operations. See **Table 3**.

Closure Type	March 2019	March 2018	Previous 12 - Month Avg
Freeway Closure	20	1	14.9
Lane Closure	67	63	84.3
Ramp Closure	0	0	0.0
Total	87	64	99.3

Table 3

Work Zone-Related Events

There were **0 incidents** identified by operators as being related to work zones during this month.

Top Duration Incidents

The longest-duration incident this month occurred on **M-66 at Spruce Street,** which lasted **4 hours, 5 minutes**. The average incident duration for March was **50 minutes**. See **Table 4.**

Location	Date	Duration	Details
M-66 at Spruce Street	March 11	4:05	Crash
M-20 at Elm Avenue	March 9	3:08	Crash
US-131 at M-222/Allegan Street/Exit 55	March 5	2:55	Crash
US-131 at Hall Street	March 29	2:25	Crash
US-31 at Polk Road	March 10	1:58	Crash

Table 4

Total Incidents per Weekday Hour

The WMTOC operates 24 hours per day, 7 days per week. The WMTOC is staffed locally during peak traffic hours, typically 6 a.m. to 8 p.m. Operations are transferred to the Statewide Transportation Operations Center during off-peak hours.

During the month of March, **7 a.m.** had the largest hourly number of incidents. Historically, **8 a.m.** has the greatest number of incidents in the Grand Region. **Figure 7** shows **incidents** for weekdays for this month.

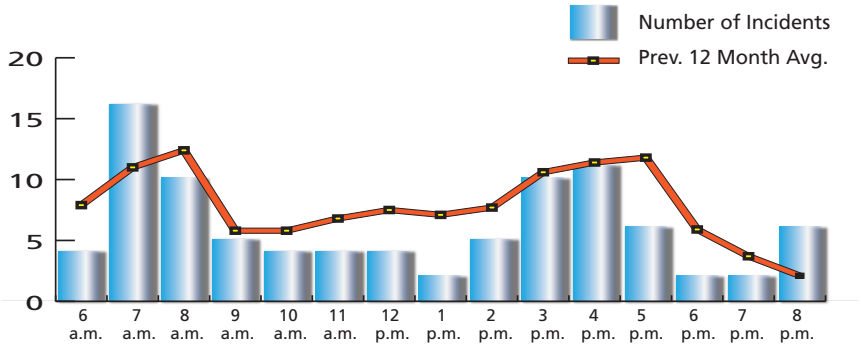


Figure 7

Incident and Roadway Clearance Times

MDOT shares a goal with local first responders to clear incidents from the roadway as quickly as possible. Reducing overall incident clearance times limits the risk to travelers and responders on scene. Effective response and clearance improves safety for motorists as well as first responders. MDOT's goal is to minimize delays caused by incidents as well as the occurrences of secondary incidents.

Roadway clearance time: The time between the awareness of an incident and confirmation that all lanes are open to traffic.

Incident clearance time: The time between the awareness of an incident and when all involved vehicles are removed from the scene.

Figure 8 shows a breakdown of the number of incidents in each time to clear bracket. **Figure 9** illustrates the average roadway and incident clearance times for the month.

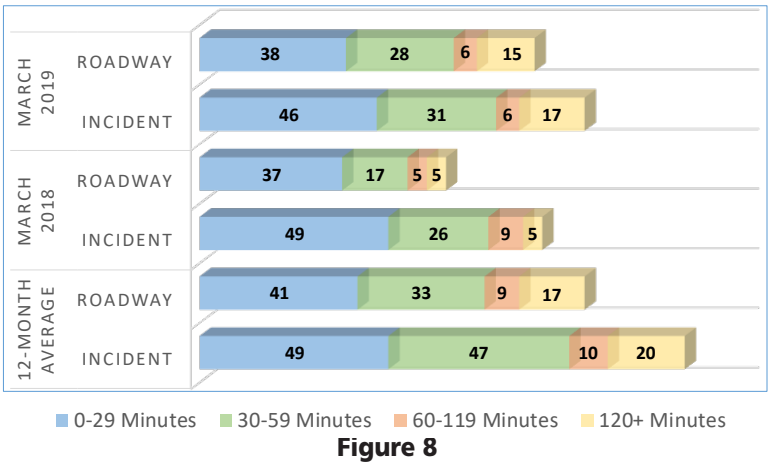


Figure 8

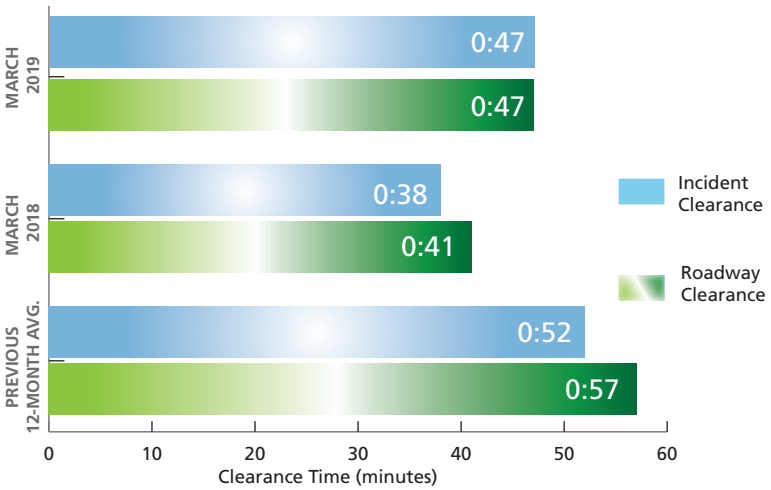


Figure 9

Secondary Crashes

Out of the **95** total crashes this month, **2 percent** were **Secondary Crashes** as observed by WMTOC CROs.

Crash Hot Spot and Most Used DMS Activity

Figure 10 shows areas where the greatest number of crashes occurred in the reported month. The shading starts with green for fewer crashes, then transitions to yellow for a moderate number of crashes, and finally to red for the highest number of crashes based on the total crashes that occurred. The top five most used DMS are also depicted on the map. The direct correlation can be seen between the areas of most crashes to DMS utilization.

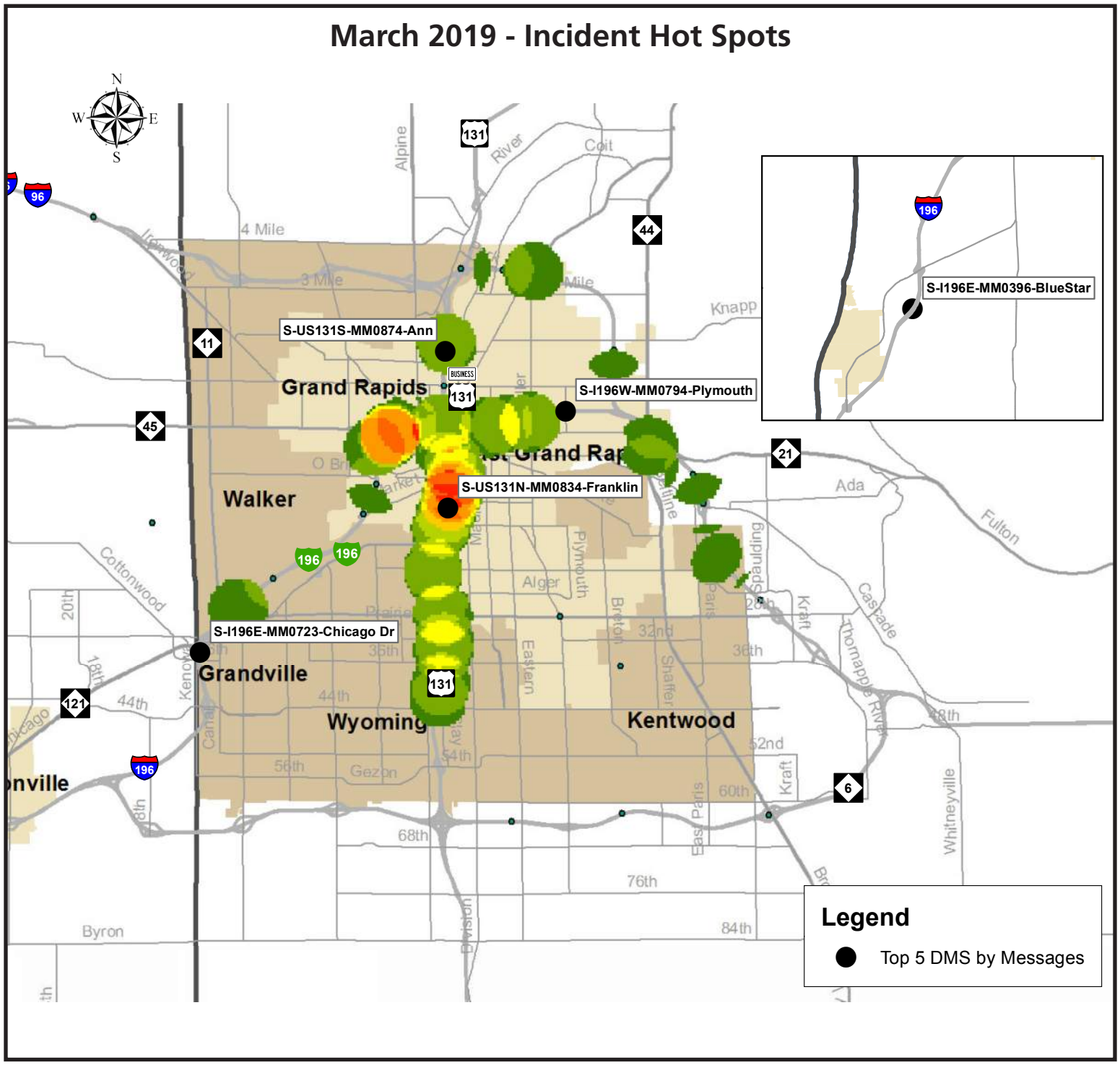


Figure 10